10/573803

THE FOLLOWING ARE THE ENGLISH TRANSLATION OF ANNEXES TO THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (ARTICLE 34):

Amended Sheets (Pages 27-30)

As enclosed to IPRP

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Claims

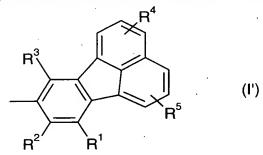
1. A fluoranthene derivative of the general formula I

where the symbols have the following meanings:

 R^1 , R^2 , R^3 , R^4 , R^5 are each hydrogen, alkyl, an aromatic radical, a fused aromatic ring system, a heteroaromatic radical or $-CH=CH_2$, (E)- or (Z)- $CH=CH-C_6H_5$, acryloyl, methacryloyl, methylstyryl, $-O-CH=CH_2$ or glycidyl;

where at least one of the radicals R¹, R² and/or R³ is not hydrogen;

X is an alkyl radical, an aromatic radical, a fused aromatic ring system, a heteroaromatic radical or a radical of the formula (I')



or an oligophenyl group;

is from 2 or 3 or, in the case of X = oligophenyl group, 1-20;

with the proviso that R^1 , R^2 , R^3 and X are not at the same time phenyl when R^4 and R^5 are hydrogen.

- 2. A fluoranthene derivative according to claim 1, wherein R⁴ and R⁵ are each hydrogen.
- 3. A fluoranthene derivative according to claim 1 or 2, wherein R¹ and R³ are each a phenyl radical.
 - 4. A fluoranthene derivative according to any of claims 1 to 3, wherein X is an aromatic radical, a fused aromatic ring system or a radical of the formula I' or an oligophenyl group.
 - 5. A process for preparing fluoranthene derivatives according to any of claims 1 to 4 by reaction of a compound of the formula II

$$R^4$$
 R^5
 R^1
 R^1

with an alkynyl compound of the formula (III)

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$$X-(=R^2)_n$$
 (III)

and subsequent elimination of carbon monoxide,

where the symbols have the following meanings:

 R^1 , R^2 , R^3 , R^4 , R^5 are each hydrogen, alkyl, an aromatic radical, a fused aromatic ring system, a heteroaromatic radical or $-CH=CH_2$, (E)- or (Z)-CH=CH-C₆H₅, acryloyl, methacryloyl, methylstyryl, $-O-CH=CH_2$ or glycidyl;

where at least one of the radicals R¹, R² and/or R³ is not hydrogen;

is an alkyl radical, an aromatic radical, a fused aromatic ring system, a heteroaromatic radical or a radical of the formula (I')

$$\mathbb{R}^3$$
 \mathbb{R}^5 \mathbb{R}^5

or an oligophenyl group;

n

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is from 2 or 3 or, in the case of X =oligophenyl group, from 1 to 20.

- 6. A process according to claim 5, wherein the compound of the formula (II) is acecyclone.
- 7. The use of fluoranthene derivatives of the general formula (I)

$$X-\left(\begin{array}{c} \\ \\ \\ \\ \\ \\ \end{array}\right)_{n}^{R^{3}} \left(\begin{array}{c} \\ \\ \\ \\ \end{array}\right)_{n}^{(1)}$$

where the symbols have the following meanings:

R¹, R², R³, R⁴, R⁵ are each hydrogen, alkyl, an aromatic radical, a fused aromatic ring system, a heteroaromatic radical or -CH=CH₂, (E)- or (Z)-CH=CH-C₆H₅, acryloyl, methacryloyl, methylstyryl, -O-CH=CH₂ or glycidyl;

where at least one of the radicals R¹, R² and/or R³ is not hydrogen;

X is an alkyl radical, an aromatic radical, a fused aromatic ring system, a heteroaromatic radical or a radical of the formula (I')

$$\mathbb{R}^3$$
 \mathbb{R}^5 \mathbb{R}^5

or an oligophenyl group;

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n is from 1 to 10 or, in the case of X = oligophenyl group, from 1 to 20;

or of fluoranthene derivatives according to any of claims 1 to 5 as emitter molecule in organic light-emitting diodes (OLEDs).

- 10 8. A light-emitting layer comprising one or more floranthene derivatives of the general formula (I) according to any of claims 1 to 4 or as set forth in claim 7 as emitter molecules.
 - 9. An OLED comprising a light-emitting layer according to claim 8.
- 10. A device selected from the group consisting of stationary VDUs such as VDUs of computers, televisions, VDUs in printers, kitchen appliances and advertising signs, lighting, information signs and mobile VDUs such as VDUs in mobile telephones, laptops, vehicles and destination displays on buses and trains comprising an OLED according to claim 9.